NEWSLETTER

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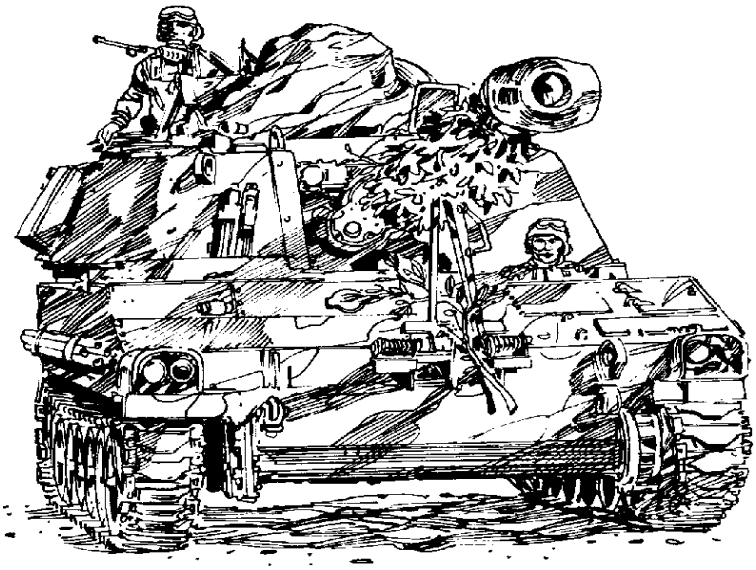
AN ARTILLERIZATION OF THE

MILITARY DECISION-MAKING PROCESS (MDMP)



TACTICS, TECHNIQUES AND PROCEDURES

CENTER FOR ARMY LESSONS LEARNED (CALL)
U.S. ARMY TRAINING AND DOCTRINE COMMAND (TRADOC)
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FOREWORD

Creating and coordinating a fully synchronized plan and operation order is a complex and often difficult, time-consuming process for any organization. The process is often made more difficult by the geographic separation of key staff officers and agencies. This is the case for many field artillery battalions. They must develop workable, synchronized field artillery support plans (FASP) despite the fact that the commander, executive officer, operations officer, and logistics officer are often located in different areas.

The purpose of this newsletter is to share some tactics, techniques, and procedures that were developed and successfully used by the staff of the 4th Battalion, 11th Field Artillery during a rotation to the Joint Readiness Training Center. The battalion staff used the military decision-making process (MDMP) as described in the May 1997 edition of **FM 101-5*, Staff Organization and Operations,*** but modified the steps to better suit their needs and their artillery-specific orders requirements. The author refers to this modification as an "artillerization of the MDMP."

The Center for Army Lessons Learned exists to share information and lessons across the Army. The XO and staff of the 4th Battalion, 11th Field Artillery developed staff techniques that worked for them. Their approach to developing the FASP differs in some respects from what is taught at the Field Artillery School. What worked for this battalion may or may not work for you.

So, how can an artillery battalion put together a clear, concise and synchronized field artillery support plan? Read further and find out what worked for one battalion and its staff. Maybe it can work for you too.

MICHAEL A. HIEMSTRA
COL, FA
Director, Center for Army Lessons Learned

An Artillerization of the Military Decision-Making Process (MDMP)

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Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

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INTRODUCTION

Instruction on the use of the military decision-making process (MDMP), in manuals such as **FM 101-5,** ***Staff Organization and Operations,*** 31 May 1997, and in the core Command and General Staff College (CGSC) tactics courses, is written for maneuver commanders and staffs. Furthermore, the Advance Fires Course, an elective at CGSC, does not teach or address how the MDMP is used to produce field artillery support plans (FASPs). Currently, there is no manual published that outlines doctrine on how to apply the MDMP to write FASPs. The Field Artillery School began teaching artillery-oriented MDMP procedures to Officer Advance Course students in 1997; artillerymen who attended the course prior to 1997 are left to wonder how to properly use the MDMP to produce a synchronized FASP.

The direct support (DS) artillery battalion staff should strive to conduct as much parallel planning as possible with the maneuver brigade staff; however, in a time-compressed planning environment, this is not always possible. The procedures outlined in this newsletter address the production of the FASP when the DS artillery battalion staff begins formal planning shortly before the brigade operation order (OPORD) is published. However, even in this sequential planning procedure, the artillery staff must still conduct planning along with the brigade staff. The artillery staff's planning will not be parallel with the brigade's MDMP, but the artillery staff will have a good concept for the artillery course of action (COA) once the brigade commander approves the maneuver COA. The artillery staff must conduct this prior planning with the brigade staff to produce a supportable brigade COA and to facilitate producing a quality FASP in a timely manner. The goal of the artillery battalion staff is to produce a thorough, synchronized FASP as soon as possible after the publication of the brigade OPORD.*

TECHNIQUES AND PROCEDURES

Step 1: Receipt of the Mission

The first step of the MDMP is to receive the mission from higher headquarters, usually in the form of a written order. However, prior to this first formal step, the field artillery battalion must initiate prior planning in conjunction with the supported maneuver brigade and with division artillery (DIVARTY) as soon as it receives the initial

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*** NOTE:** The MDMP process outlined in this newsletter is led by the battalion executive officer (BN XO); the Field Artillery School, however, teaches that the S-3 runs this process. The author believes that the BN XO, as the second in command and chief of staff, is the one responsible for synchronizing the staff's efforts on developing a FASP. This allows the S-3 time to focus on fighting the current fight, develop courses of action, and issue movement orders, while the BN XO supervises the process. The BN XO is the logical member of the battalion staff to ensure that the logistic and operation plans are developed together and support each other. Furthermore, the MDMP procedures outlined in this article are written for a compressed order timeline, more commonly found at Combat Training Centers (CTCs). The procedures follow the guidelines outlined in FM 101-5. These procedures were successfully tested during the Leader Training Program and during a CTC rotation. The author believes that it is best to train the staff on the MDMP using the toughest conditions (i.e., conditions found at the CTCs) they will encounter. If the staff can produce a FASP using the compressed timeline procedures outlined in this article, it can produce a FASP when the timeline is not constrained.

brigade warning order. Staff officers must "cross-talk" with their respective counterparts on the brigade staff to acquire as much information, as early as possible, regarding the upcoming operation. The S-2 begins the Intelligence Preparation of the Battlefield (IPB) process. The S-3 develops the initial reconnaissance plan. Warning orders are sent to the batteries as new information about the upcoming operation is received from brigade. Hence, prior to the receipt of the brigade's OPORD, the direct support (DS) artillery staff has formed an understanding of the mission, and the battalion executive officer (XO) has developed an initial timeline. In addition, the field artillery staff has begun preliminary mission analysis and tentative COA development. This preliminary analysis focuses on updating estimates and starting task analysis. Furthermore, the S-3 must work closely with the brigade fire support coordinator (BDE FSCOORD/DS FA commander) and the brigade fire support officer (BDE FSO) to gain an understanding of the maneuver COAs in order to coordinate position areas (PAs) and to determine the ammunition requirements for the upcoming operation. The DS battalion commander develops a tentative artillery COA for each maneuver COA developed during the brigade's MDMP. During the brigade's MDMP, the FSCOORD and BDE FSO coordinate PAs, movement routes, and other terrain data the artillery requires. As soon as possible, the S-3 initiates ground or aerial reconnaissance of potential routes, PAs, landing zones (LZs), pickup zones (PZs), or rearm, refit, and refuel position (R3P) locations to support the upcoming operation. The main function of the artillery staff's prior planning with the brigade is to ensure that the brigade produces a COA the artillery can support and to help the field artillery staff produce a quality, synchronized FASP as soon as possible after the brigade's OPORD.

Prior to attending the brigade MDMP, the field artillery battalion commander receives an informal staff update for each of the primary staff areas. The S-2 briefs the commander on initial IPB products such as modified combined obstacle overlay (MCOO) and situational template (SITTEMP), if available. The S-3 updates the commander on current howitzer, radar, meteorological (METRO), and Position Azimuth Determining System (PADS) status. The logistics planner or the XO briefs the commander on status of Class I (water), Class III, and Class V supplies; maintenance; medical; and personnel. This information helps the commander accurately represent the DS artillery battalion during the brigade's MDMP, thus ensuring the development of a supportable COA from the artillery's perspective.

Several hours prior to the start of the brigade's MDMP, the battalion XO and a logistics planner (personnel officer [S-1] or logistics officer [S-4] battle captain) move to the tactical operations center (TOC) to start the planning process. The XO performs the chief of staff role and supervises the MDMP. This is the same role outlined for maneuver XOs in FM 101-5. This centralized planning process helps ensure that the FASP is synchronized from inception.

As soon as possible during the brigade's MDMP, the commander issues initial planning guidance to the XO and the S-3. The commander addresses the following: commander's critical information requests (CCIR), type of order to produce, any movement instructions, input to the reconnaissance plan, additional tasks to batteries, input to the time plan, and type of rehearsals to conduct. The XO finalizes the timeline for the operation using the timeline planning worksheet (Appendix A).

Step 2: Mission Analysis

Mission analysis, as outlined in FM 101-5, consists of 17 steps, which the author divides into two parts--task analysis and the update of staff estimates. The author proposes that the two parts of mission analysis take place simultaneously. Furthermore, the author considers the list of 17 steps for mission analysis contained in FM 101-5 as a guideline to ensure completeness of the analysis rather than as a strict sequential list that must be followed. Thus, the mission analysis procedures outlined below are written for a compressed timeline, and steps are

performed in a functional order versus a sequential order. The steps for mission analysis outlined in FM 101-5 are enclosed in parentheses to assist readers in tracking the proposed order. Mission analysis is a very important step in the MDMP. When performed properly, it provides the staff with an understanding of the battalion's role in the brigade's operation and what parameters the battalion must operate within to meet its mission. The XO must ensure that the staff has sufficient time to do a thorough mission analysis.

Upon returning from the brigade OPORD, the S-2 and the S-3 conduct a quick mission brief to the assembled staff, while the operations NCO (OPS NCO) copies and distributes appropriate annexes to each staff section. During this mission brief, the S-2 provides a quick brief on the terrain and enemy using the MCOO and SITTEMPs, if available. The S-2 can use the brigade's IPB products to conduct this brief if the battalion's products are not completed during prior planning. The S-3 outlines the brigade's mission, the concept of operation, and the brigade commander's intent, and defines the areas of operation and interest to the battalion (Steps 1 and 4). The XO reviews and posts the timeline the staff will follow to produce the FASP (Step 10). This quick mission brief ensures that the staff has a good understanding of the brigade's mission, concept of operation, and the brigade commander's intent prior to beginning mission analysis for the battalion.

After the mission brief, staff members conduct task analysis on their respective annex of the brigade OPORD using the mission analysis worksheet (Appendix B). The purpose of task analysis is to identify specified, implied, and essential tasks; constraints; restrictions; facts; necessary assumptions; and forces available; and to develop Requests For Information (RFIs) (Steps 3, 4, 5, and 6). The XO and the S-3 focus their task analysis on paragraphs III and IV of the OPORD and the Fire Support Annex. They then identify the essential fire support tasks (EFSTs) that the brigade tasked the DS artillery battalion to accomplish. The tasks the artillery must accomplish to achieve assigned EFSTs are called essential field artillery tasks (EFATs). A fully developed EFAT addresses task, purpose, method, and effects. The tasks specify whether the target must be suppressed, neutralized, destroyed, screened, or obscured. The purpose describes how the successful engagement of the target contributes to the maneuver commander's plan (taken from the EFST's purpose). The method discusses how the artillery battalion will achieve the task. The staff determines the method for each EFAT during course of action (COA) development. Effects describe what the artillery battalion must accomplish to successfully achieve the task.

The S-2 focuses the intelligence effort on completing the IBP products (e.g., MCOO and SITTEMPs) (Step 2), developing the initial CCIR (Step 8), and identifying the battalion's requirements to support the brigade's reconnaissance and surveillance (R&S) plan. The S-2 notifies the S-3 of Priority Intelligence Requests (PIRs) that the brigade tasked the battalion to answer. The S-3 then uses this information to develop the reconnaissance plan (Step 9). The plans officer uses a chart-pack to post the results of each staff section's mission analysis. Responsible agencies are assigned an RFI when it is posted to the chart-pack.

Concurrently, each staff section updates its estimate to ensure it has the assets available to meet the tasks assigned to the battalion in the brigade order. The staff focuses its effort on identifying shortfalls that could negatively impact on the operation. Once a shortfall is identified, the staff section develops solutions to overcome the shortfall with internal assets or requests assistance from higher headquarters. Shortfalls are posted on the mission analysis chart-pack sheets, and requests for assistance are posted as RFIs. These shortfalls eventually become part of the risk assessment for the operation. The logistics planner focuses his estimate on Class I (water), Class III, Class V, medical, and maintenance.

Next, the XO and the S-3 identify the essential task(s) the battalion must accomplish to be successful and to also make the brigade's operation a success (Step 3). These essential tasks are used to develop the "What" portion of the revised mission statement. Together the XO and the S-3 draft the battalion's restated mission (Step 11).

After developing the restated mission, the XO conducts an initial risk analysis for the operation by reviewing shortfalls identified by the staff and hazards that could negatively impact combat power to the point that it could cause the battalion's operation to fail (Step 7). The S-3 updates the reconnaissance plan that was developed during prior planning while the brigade completed its MDMP (Step 9). The XO reviews and updates the timeline (Step 10).

Mission analysis concludes with the formal mission analysis brief to the commander (Step 12). This brief should be quick and succinct, focusing on information the commander needs to understand the concept of the mission, and outlining the parameters within which the battalion has to operate. Each staff section briefs current status and only discusses shortfalls. A suggested mission analysis briefing agenda is found in Appendix C. In addition, the products of mission analysis are listed in Appendix D.

After the mission analysis brief, the commander approves or modifies the restated mission, approves or modifies the timeline, provides the initial intent, and issues guidance to the staff (Steps 13-15). If time permits, the commander should provide written guidance. A checklist for the commander's guidance is found in Appendix E. At a minimum, the commander should address enemy and friendly COAs for staff consideration, priority of EFATs, guidance on method(s) to accomplish specific EFATs, input to the CCIR (especially PIRs), and RFIs, and should provide his initial intent. Within 30 minutes of receiving the commander's guidance, the operation section issues another warning order to the units (Step 16). Prior to starting the COA development and COA analysis, the XO and the S-3 review the facts and assumptions to ensure they are up to date (Step 17). The XO updates the timeline based on the commander's guidance. Upon completing the updating of facts and assumptions, mission analysis ends and Step 3, COA Development, begins.

Step 3: Course of Action Development

The first step of formal COA development is to review and update facts, assumptions, and forces available that were identified during mission analysis. The second step is to generate conceptual possibilities to support the maneuver brigade's plan, which begins upon receipt of the brigade's first warning order. In addition, by having the field artillery battalion commander participate in the brigade's MDMP, the field artillery battalion should have the foundation of its COA developed. To begin, the XO or the S-3 posts all assets the battalion has available and draws a concept sketch of the area of operation on a chart-pack. The staff uses the MCOO and SITTEMP posted on the operations map to select firing positions and support locations (initial positions are selected during the brigade's MDMP). The areas selected are transferred to the concept sketch, and assets are set in position. In addition, alternate PAs are selected and posted on the sketch. Firing positions are selected based on the following criteria:

- The weapon range supports accomplishment of EFATs.
- Terrain supports firing in terms of cant and site to crest.
- Positions are located away from high speed enemy avenues of approach or enemy objectives.
- Good routes are designated for resupply.
- Movement routes support positions for ground and air.
- The ability to communicate is confirmed.
- Radar deployment considerations such as cant, mask angle, and search azimuths are verified.

The S-2's MCOO should have restrictive cant zones and intervisibility lines depicted on it. A well-developed MCOO will make potential PAs very apparent. The S-3 coordinates with the brigade S-3 to verify that PAs and support locations selected by the FSCOORD and brigade FSO during the brigade's COA development are still available for artillery use. This coordination is essential to ensure that the artillery battalion has near exclusive use

of the terrain before developing a scheme of maneuver for each COA. The XO and the staff generate the number of conceptual COAs based on the commander's guidance.

The next step is to develop a scheme of maneuver for each COA. The scheme of maneuver addresses, in detail, how the battalion's assets can accomplish the commander's intent and the EFATs. The scheme of maneuver must address:

- The movement plan to locate batteries and sections into primary positions.
- Azimuths of fire.
- Planning range fans.
- Radar coverage areas.
- Listing of EFATs (in task, purpose, method, and effects format).
- Tasks to subordinate elements.
- Alternate positions.
- Survey plans.
- Engineer support.
- ADA support.
- METRO support plan.
- Priorities of support.
- Concept of logistical support.
- The communication plan.

The XO must ensure that the entire staff is involved in COA scheme of maneuver development to ensure it is feasible. The XO and the S-3 must ensure that all available assets are incorporated into the scheme of maneuver. Furthermore, when developing multiple COAs, the XO and the S-3 must ensure that each COA is unique from the others. If time permits only the development of one COA, the commander must be involved in its development.

The final step of COA development is to conduct a quality control test on the COA. Check the COA for feasibility, acceptability, suitability, distinguishability, and completeness (FAS-DC test). The COA is feasible if it meets the commander's intent within time, space, and resource constraints. Next, the COA is acceptable if it entails prudent risks and ensures the unit is combat effective at the end of the operation. The commander must define prudent risk. The COA is suitable if it accomplishes the mission and meets the commander's intent. The distinguishability test is used when developing multiple COAs. A COA is distinguishable if it has significant differences from other COAs in terms of how the battalion will move its units (echelon vs. in mass), modes of transportation (ground convoy vs. air assault), positioning of key assets (location of radar or command posts), control of fires (establishing quick-fire channel with Q36), and time of operation (day vs. night).

Finally, a COA is complete if it addresses the **Who, What, When, Where, How,** and **Why** questions concerning all elements participating in the operation. First, the COA must ensure that all elements in the battalion or OPCON to it have a role in the mission (Who). Second, the COA must clearly outline tasks or actions for subordinate elements (e.g., neutralize priority target AB 3200) (What). Third, the COA should outline the time actions or tasks will take place (e.g., Be in position ready fire on AB 3200 NLT 120200SEP) (When). Fourth, the COA should clearly outline the locations and tentative future locations for all battalion assets (e.g., initial firing positions with azimuth of fire (AOF) or radar location with primary azimuth of search) (Where). Fifth, the COA must clearly outline how the battalion assets will be employed to accomplish the mission (e.g., Bravo Battery will conduct deliberate air assault to PA32) (How). Sixth, the COA must outline the purpose for each task assigned to a

subordinate element (e.g., Bravo Battery conducts a deliberate air assault to PA32 to neutralize target AB 3200 to protect the brigade's air assault into objective Rhino) (Why).

If the COA passes the FAS-DC test outlined above, the staff can be assured it has produced a viable COA that will accomplish the mission and the commander's intent. If the commander directed more than one COA, the staff would repeat steps two and three for each additional COA. A checklist the XO or the S-3 can use to ensure that quality COAs are being developed is found at Appendix F.

Step 4: Course of Action Analysis

The heart of COA analysis is the war-gaming process, which consists of eight steps. War-gaming allows the staff to visualize the operation at critical points to ensure that all assets are sychronized in time and space to accomplish the mission and meet the commander's intent. War-gaming is essential to developing a synchronized COA; thus the XO must allocate sufficient time to do a thorough war-game.

A successful war-game depends on good preparation prior to the start. First, the OPS NCO and plans officer gather the products from mission analysis and COA development. They post the COA sketch; lists of specified, implied, and essential tasks (EFATs and EFSTs); facts and critical assumptions; RFIs; the sychronization matrix to record results; and list of assets available. In addition, they set up the planning cell so that all seats are oriented to the COA sketch and the synchronization matrix, and all posted materials can be seen by all. While the plans area is being set up for war-gaming, the XO and the S-3 determine the critical events to war-game and COA selection criteria, if war-gaming more than one COA. Choosing selection criteria prior to the start of war-gaming reduces bias in the comparison of COAs. The commander or XO determines the war-game method based on time available and scope of the operation. When the plans area is set up, the OPs NCO assembles the staff.

Prior to starting the war-gaming of a COA, the S-3 briefly reviews the COA for the benefit of staff members not present during COA development and to refresh the staff's memory when working multiple COAs. Also, the S-3 ensures that there is a staff member responsible for providing expertise on each Battlefield Operating System (BOS) listed on the war-game synchronization matrix. The XO establishes the rules and sets the time limit. The S-3 runs the war-game, and the XO supervises the process. If time is short, the war-game is started at the most critical event. The plans officer posts the critical events at the top of the synchronization matrix. The *Friendly Action-Enemy Reaction-Friendly Counter Action* drill is used for each critical event. The S-2 plays a free thinking, aggressive enemy fighting the COA that the commander requested in his guidance. The S-3 then introduces the critical event and the friendly action. The S-2 describes in detail the enemy reaction to the friendly action, focusing on how the enemy reaction will impact on the artillery battalion's units. The S-3 then discusses the friendly counteraction to the enemy's reaction, again focusing on what the battalion's elements will do. The sychronization matrix is used to drive the war-game and record the results. The XO provides direction to the war-game by ensuring each component of the synchronization matrix is considered for each critical event and that all staff members are actively participating in the war-game.

The 4th Battalion, 11th Field Artillery staff modified the standard Battlefield Operating System (BOS) synchronization matrix to make it more useful in war-gaming COAs for artillery battalions (see Appendix G). This modified matrix is called the "artillery war-game synchronization matrix." The artillery war-game synchronization matrix includes all of the BOS; however, it has merged maneuver and fire support BOS into one section called "essential field artillery tasks" (EFATs), which covers FA operations. The sub-components of an EFAT are the task, purpose, method (priority of fires, priority of targets, battery tasks, movement, survey, radar deployment, meteorological schedule, munitions, and fire support coordination measures) and effects. The EFAT section

contains most of the elements necessary to synchronize a field artillery battalion's COA. The matrix is a tool to help ensure that all of the battalion's assets are focused on each critical event.

Furthermore, the artillery war-game synchronization matrix has a section for risk analysis to ensure the staff identifies high risk hazards associated with critical events and assigns reduction measures to subordinate units or, if necessary, even modifying the COA. If the staff waits until after war-gaming to conduct risk assessment and decides to modify a COA to reduce risk, then it must go back and war-game the changes that were made to the COA. Therefore, a staff saves time and effort by considering risk management in war-gaming. The 4-11 FA staff had several of these matrixes enlarged, mounted on poster board, and laminated. The staff used the artillery war-game synchronization matrix during rotation 97-10 at the Joint Readiness Training Center (JRTC). The matrix proved to be successful. In fact, the observer/controllers (O/Cs) commented that the artillery war-game synchronization matrix was one of the most useful tools that they had seen to help synchronize field artillery operations.

For instance, Appendix G contains a partially completed field artillery war-game synchronization matrix with the results of war-gaming for setting the defense at JRTC. During this phase of the operation, both firing batteries and the radar are moving to new positions. The radar moves and locates with Bravo Battery. The deception radar moves and locates with Alpha Battery. The battalion has an engineer "blade team" to assist the batteries in preparing their defenses. Each firing battery moves with a survey team to establish survey in the new primary and alternate positions. In addition, the support platoon moves Class IV and Class V by air to the new battery positions. The meteorological section adjusts the flight schedule during the firing battery moves.

The enemy's reaction to the battery moves should entail increased interdiction of ground main supply routes (MSRs), more direct action by members of the Leesville Urban Group (LUG), and sniper and mortar attacks from the Cortina Liberation Front (CLF) on battery positions to disrupt setting the defense. The battalion's counter-actions to the enemy's reactions are:

- Requesting brigade to provide a maneuver force to clear MSRs prior to firing batteries moving.
- Increasing soldier alertness to civilians and civilian automobiles around battery areas or the convoys.
- Establishing traffic control points (TCPs) around battery positions, digging in with overhead cover.
- Requesting radar coverage from DIVARTY while the radar moves.

As illustrated by this example, the field artillery war-game synchronization matrix clearly and succinctly prompts and captures all the functions that an artillery battalion must perform to set the defense. Note: Be sure to include time-distance factors for actions and reactions during the war-game.

Upon completion of the war-gaming of a COA, the plans officer posts all external coordination requirements to the RFI list and assigns a staff agency responsible for answering each one. If the staff has only one COA to war-game, it will begin FASP preparation. If the staff must war-game other COAs, it will construct another artillery war-game synchronization matrix and begin the next war-game. Appendix H provides a detailed checklist to help set the conditions for a productive war-game, and Appendix I provides a list of the products produced from this process.

To summarize, the war-game portion of COA analysis is critical to the synchronization of a plan. The XO must ensure that the staff has time to conduct a thorough war-game for each COA. If time is short, the commander should outline a single COA during mission analysis and the XO must ensure that it is thoroughly war-gamed. The war-game should begin with the most critical event to ensure that it is covered in detail. In addition, the XO

supervises the war-game process to ensure that all staff members are participating by using his experience to raise questions and resolve issues, and to ensure that proper procedures are being followed. The S-3 runs the war-game to guarantee all assets are being used and focused at the critical time and place.

Step 5: Courses of Action Comparison

After war-gaming all COAs, the staff now conducts COA comparison to select the COA that best supports the mission and commander's intent. The commander or XO assigns weights to the criterion based on relative importance. Weights are determined based on the commander's assessment of the relative importance of each criterion to the accomplishment of the mission. Next, the staff conducts a subjective analysis of each COA by listing its respective advantages and disadvantages with regard to the evaluation criteria established prior to war-gaming. The staff uses this analysis to determine which COA best supports the respective evaluation criterion. The COA that the staff rates the best for a specific evaluation criteria is given a "1," the second best a "2," and the third a "3." Each COA's assigned number value is multiplied by the weight factor to determine the weighted total, which is the number found in parenthesis in each cell (see Appendix J). The above process is repeated for each evaluation criteria. After the staff rates each COA on all criteria, the total numerical value and total weighted values are summed. The COA with the lowest weighted value is the preferred COA and the one recommended to the commander. In Appendix J, COA 1 would be the preferred COA because it has the lowest weighted value total (40).

The use of the COA comparison matrix provides several advantages to the staff in selecting the best COA. First, this decision matrix technique also allows the commander and/or XO the flexibility to weigh factors in accordance with their relative importance to the operation. Thus, the factors the commander feels are the most important are given a greater weight to influence the decision process. Second, this comparison matrix provides the staff with an objective tool to evaluate the COAs. This objectivity helps reduce the staff's bias toward any one COA, which ensures that the COA that best meets the evaluation criteria is selected for recommendation to the commander. If the staff's analysis cannot determine a best COA to recommend to the commander, then the XO selects one based on his experience.

Step 6: Course of Action Approval

The results of the COA comparison analysis are briefed to the commander in the COA analysis brief, after which the commander will select a COA based on the staff's input. The commander must decide to select the staff's recommended COA, modify a COA, or reject all proposed COAs. If the commander rejects all proposed COAs, the staff must revisit mission analysis and start COA development over again. Likewise, if the commander modifies a COA, the staff must war-game the modifications.

When operating under a compressed time schedule and developing only one COA, the XO and the S-3 brief the commander on the results of the war-game and outline the advantages and any disadvantages to the COA. The commander will decide to accept the COA or modify it. If the commander modifies the COA, the staff must war-game the modifications.

After selecting or approving the COA, the commander should review his intent statement and CCIR to update as necessary. Furthermore, the commander should issue any additional guidance regarding priorities of support, risk management, modifications to the timeline, type of order, or type of rehearsal. After receiving the commander's approved COA and refined guidance, the S-3 issues another warning order to subordinate units so they can refine their plans and start actions such as distributing ammunition and moving elements.

Step 7: Orders Production

Following the COA selection or war-game for a single COA, the staff begins preparation of the FASP. Staff members use the field artillery war-game synchronization matrix to write a majority of their respective paragraphs for the order. The XO encourages staff sections to "cross-talk" while they are preparing their respective portions of the order. The centralized approach to preparing the FASP facilitates "cross-talk" between the staff, which in turn leads to even greater synchronization of a plan. In addition, the XO ensures that all RFIs are answered prior to publication of the order.

When the first draft of the FASP is completed, the XO and the S-3 conduct a review of the order to ensure that it is complete and that the products are synchronized (see Appendix K). They check the base order to ensure that:

- All EFATs have redundant means for accomplishment.
- All specified and implied tasks are incorporated into the plan.
- All RFIs are answered.
- All information, such as tasks to subordinate units and coordinating instructions recorded during the war-game, are contained in the FASP.
- The radar deployment order (RDO) agrees with the base order.
- The operations and CSS synchronization matrixes are synchronized and completed. (See Appendix K for complete checklist.)

In addition, the XO and the S-3 conduct an overlay synchronization check. This check involves posting the operations overlay with brigade graphics, and then placing the enemy situational template and the logistics overlay on top. The XO and the S-3 check to ensure that:

- Locations of battalion assets are accurately posted.
- Battalion assets are not posted in the same location as brigade assets.
- The battalion has not posted assets on enemy objectives or avenues of approach.
- Ambulance exchange points (AXPs) are established on roads away from the enemy's main avenues of approach and not on roads scheduled to be blocked as part of the brigade's obstacle plan.
- Firing elements can range the entire brigade sector throughout the operation.
- Firing batteries' azimuths of fire do not overlap.

These final checks by the XO and the S-3 ensure that the FASP is complete and that the battalion has a solid, synchronized plan to accomplish its mission (see Appendix K).

About 30 minutes prior to the FASP brief, the XO checks with each primary staff member and runs through a rehearsal on what they will brief at the order. This rehearsal technique helps the XO focus each staff officer's brief on the key points, thus saving time in the FASP brief. In addition, the S-3 has the battery commanders report to the FASP brief 10 minutes early so they have time to read the FASP. This allows them time to formulate questions or points of clarification to ask during the FASP brief. Furthermore, they are also familiar with the content of the FASP, so they do not have to take numerous notes and can listen to the brief. At the start of the FASP brief, the OPS NCO takes roll and conducts an inventory of the FASP to ensure everyone has a complete order. (Appendix L contains the FASP briefing agenda used by 4-11 FA.) At the conclusion of the FASP, each battery commander back-briefs the battalion commander on the tasks and purposes for which his unit is responsible. This back-brief is a rehearsal technique used to ensure that battery commanders understand their role in the upcoming operation, to resolve concerns, or to answer questions.

Supervising Preparation for and Execution of the FASP

The staff's work does not end once the order is published. The staff must diligently supervise the preparation and execution of the FASP to ensure that the battalion is prepared to accomplish its mission. **This is one of the most important steps of the troop-leading procedures.** The XO and the S-3 must ensure that the staff invests the time to properly monitor the preparation for executing the mission. Discussed below are procedures field artillery staffs can use to assist in supervising the preparation for and execution of the mission.

Rehearsals

Rehearsals are essential tools for efficient execution of a plan because they help ensure that a plan is well synchronized prior to execution. The XO must allot time to do some type of rehearsal. FM 101-5, Appendix G, Rehearsals, is an excellent reference on how to conduct a proper rehearsal. It also discusses the various types of rehearsals in detail. In addition, Appendix M of this publication contains a list of steps for conducting any type of rehearsal.

Generally, the terrain model technique is the most beneficial and efficient rehearsal technique for fully visualizing the operation. The XO must ensure that each player is present at the terrain model talking and walking through his portion of a critical event. The walk-and-talk-through ensures the player knows his part in the critical event and also helps other players visualize how each element contributes to the overall plan. In addition, the walk-through on the terrain board familiarizes the players with the area of operation. The S-3 can coordinate with brigade to use its terrain board to conduct the FA battalion rehearsals.

The DS battalion commander, brigade FSO, XO, S-3, S-2, and battalion FDO should attend the brigade's combined arms rehearsal. At this rehearsal, the brigade commander reviews his intent and concept of the operation, and each maneuver commander and his fire support officers walk through their respective plans and discuss how they contribute to achieving the brigade commander's intent by phase. The brigade FSCOORD and FSO note any refinements the brigade commander makes to the fire support plan and clarifies them during the brigade fire support rehearsal.

The field artillery battalion must conduct several rehearsals to ensure the FASP is thoroughly synchronized. Immediately following the combined arms rehearsal, the FA battalion conducts the brigade fire support rehearsal for the brigade commander, which is attended by the brigade commander (when available), XO, S-3, S-2, S-4, ENG, FSCOORD/CDR, FSO, Air Force ALO, Army Aviation LNO, COLT team chiefs, DS battalion XO, S-3, S-2, battalion FDO, radar tech, task force commanders (when available), and the task force FSOs. This rehearsal ensures that the DS battalion's fires are synchronized with the brigade's plan and that they will accomplish the brigade commander's intent for fire support. In addition, the FA commander and the brigade FSO must ensure that all fire support assets are integrated to accomplish the brigade commander's intent for fires. Thus, they are responsible for leading the brigade's fire support rehearsal.

The rehearsal should start with the brigade commander restating his concept for fires and reviewing the EFSTs. The brigade commander or brigade S-3 must clearly articulate the purpose, method, and effects for each EFST. Next, the brigade S-2 portrays the enemy situation at the first (most important) critical event to be rehearsed. The brigade FSO, using the fire support matrix, has unit observers respond as deployed from front to rear for each target associated with the critical event. Each participant responsible for a target should address the following about that target:

- Target purpose and priority.
- Target location.
- Trigger points (daylight and night).
- Primary and alternate observers.
- Communication nets (primary and back-up).
- Weapons systems engaging.
- Type and volume of munitions.

The fire support rehearsal provides the FA battalion's key leaders a clear understanding of the field artillery's role in the brigade's overall fire support plan and provides them with an opportunity to hear last-minute refinement from the brigade commander with regard to fire support.

Second, the FA battalion staff must conduct a combined operations and CSS rehearsal attended by the commander, primary and special staff, battery commanders, and 1SGs. The purpose of this rehearsal is to ensure that the FA battalion's operations and CSS are synchronized and that all participants know their parts in order to support each critical event. The XO supervises the rehearsal to ensure standards are met and all issues are resolved. At a minimum, each battery commander and each key staff leader should leave the rehearsal with a full understanding of what is expected of his unit or staff section, confirmation on the viability of his plan to accomplish the assigned tasks, how his tasks contribute to the accomplishment of the battalion's mission, and how his tasks impact on other elements in the battalion. The S-2 performs the role of the enemy commander and visually portrays the enemy SITTEMP at the time of the critical event. The S-3 reviews the friendly concept of the operation and calls on each operational element to walk and talk through their tasks and purposes for the critical event. After operational elements discuss their parts, the S-1 and the S-4 discuss the tasks and purposes for the logistical elements to support the operational plan for the given critical event. Linking the logistical and operational rehearsals ensures that the logistical operations are synchronized to support the battalion's operational plan. For example, operational events or times are linked as trigger mechanisms for logistical support missions. Rehearsal participants must be prepared to discuss details of the operation such as time-distance factors for moves, occupations, rigging operations, haul capacities, fuel delivery capacities, fuel flow rates, and other essential areas to ensure that the details of the plan are fully addressed. If issues arise during the rehearsal or changes are made to the plan, the plans officer records them on the synchronization matrix or chart-pack. The XO ensures that all issues are resolved before the rehearsal ends.

Immediately following the combined operations and CSS rehearsal, the battalion should conduct a casualty evacuation (CASEVAC) rehearsal attended by the XO, S-1, HSB CDR, medical platoon leader, 1SGs, and medics. The purpose of this rehearsal is to ensure that the battalion's medical evacuation (MEDEVAC) plan is functional. The XO supervises while the S-1 conducts the rehearsal. The medical platoon leader begins the rehearsal with a review of the battalion's medical concept of operation. The S-1 then has each 1SG walk and talk through standard and nonstandard MEDEVAC procedures for each critical event. The 1SGs must brief the following for air MEDEVAC request(s):

- Frequency used to request MEDEVAC.
- Call sign.
- Location and marking of PZ.
- Security plan for PZ.
- Back-up ground plan.

For ground MEDEVAC requests the 1SGs must discuss:

- Frequency used to notify the ALOC.
- Location of the nearest battalion aid station.
- Location of the nearest AXP; travel time to aid station and AXP.
- Security vehicles and personnel.
- Primary and alternate routes.
- Procedures to clear use of route.
- Travel time to aid station or AXP.

For nonstandard CASEVAC (mass casualties) 1SGs must brief the following:

- Procedures to notify the ALOC.
- Vehicles by bumper numbers designated as casualty carriers.
- Casualty hauling capacity by vehicle.
- Vehicles for security element by bumper number.
- Number of stretchers.
- Location of aid station.
- Travel time to aid station.
- Primary and alternate routes to aid station.

Having the 1SGs brief the above items ensures that the MEDEVAC plan is functional and thoroughly understood. Furthermore, conducting the rehearsal immediately after the operations and CSS rehearsal prevents the 1SGs from making a return trip to the TOC location.

The FA battalion's final rehearsal is the technical rehearsal of the fire support plan. This rehearsal involves the entire fire support system from observer to the guns and is conducted over the radio. The purpose of this rehearsal is to ensure the entire fire support system understands the concept of fires and can support all EFATs the battalion must perform. This rehearsal validates the following:

- Digital nets are operational.
- Shift times between priority targets.
- Batteries can range critical targets.
- Batteries have enough types of ammunition on-hand to support operations.
- Observers can talk on the appropriate nets to execute targets.
- The length of time it will take to execute the fire support plan.

The brigade FSO and the battalion FDO supervise the execution of this rehearsal. The results from this rehearsal are used to make small modifications to the fire support plan to increase synchronization.

Battle-tracking

Battle-tracking subordinate elements' preparation is another tool the FA battalion staff uses to supervise the execution of the FASP. The TOC should have both offensive and defensive preparation tracking charts to monitor each battery's preparation for the upcoming operation. For instance, in the defense the TOC should track:

- Status of Class III, Class IV, and Class V.
- The preparation of defensive fighting positions.
- Survey control status.

- Preparation of alternate positions, obstacle emplacement.
- Combat power (number of tubes operational).
- The development of a defensive fire plan for intra-battalion fires.

By battle-tracking the above information, the TOC knows when each battery is fully prepared to execute the upcoming operation. In addition, this battle-tracking will also highlight problem areas that the staff must solve quickly to set the unit up for success in the upcoming operation.

Possible Contingencies

The staff must also think through possible contingencies to ensure that the battalion has options should a particular situation arise. For instance, the logistical planners should plan for emergency ammunition resupply by having several trucks uploaded with ammunition, convoy order given, the rehearsal conducted, and routes pre-cleared through brigade so the resupply convoy could launch at a moment's notice. In addition, logistics planners could have A-22 bags or 10 K cargo nets pre-rigged for emergency resupply by air. Another example of anticipating contingencies is to have several mess section 5-ton trucks downloaded and pre-positioned at the battalion aid station for nonstandard CASEVAC. By anticipating these and other possible contingencies, the staff reduces the reaction time when the situation arises, thus allowing the battalion to maintain the initiative and freedom of action to execute the FASP.

During the execution phase, the staff must closely track the battle to anticipate any unforeseen problems caused by the enemy, weather, or other aspects of "friction." The CCIR is critical to filter incoming information and focus the battle staff on important information that would alert it to a changing situation. In addition, battle captains must monitor execution criteria for decision points. For example, if the decision criteria for launching an emergency ammunition resupply is a firing battery ammunition count dropping below 200 rounds of high-explosive shells and an adjacent battery reporting it had 175 rounds of HE remaining, the battle captain would notify the S-3, clear the route, and give the ALOC the order to launch the emergency ammunition resupply. Furthermore, a well-rehearsed and synchronized FASP will allow units the freedom to use initiative to operate within the commander’s intent and provide a firm foundation of common understanding, which makes changes easier to implement.

CONCLUSION

Modifications to the MDMP and related tools outlined in this CALL newsletter should help make the military decision-making process more user-friendly and functional to the field artillery in producing thorough and well-synchronized FASPs. The "artillerization of the MDMP" fills a gap in the artillery community’s existing TTPs that is beginning to be addressed in official publications and training courses. The above modifications and tools were validated at the 4-11 FA battalion’s JRTC rotation (97-10). The O/Cs praised the efficiency and effectiveness of the artillery modifications to the MDMP. "ON TIME!"✪

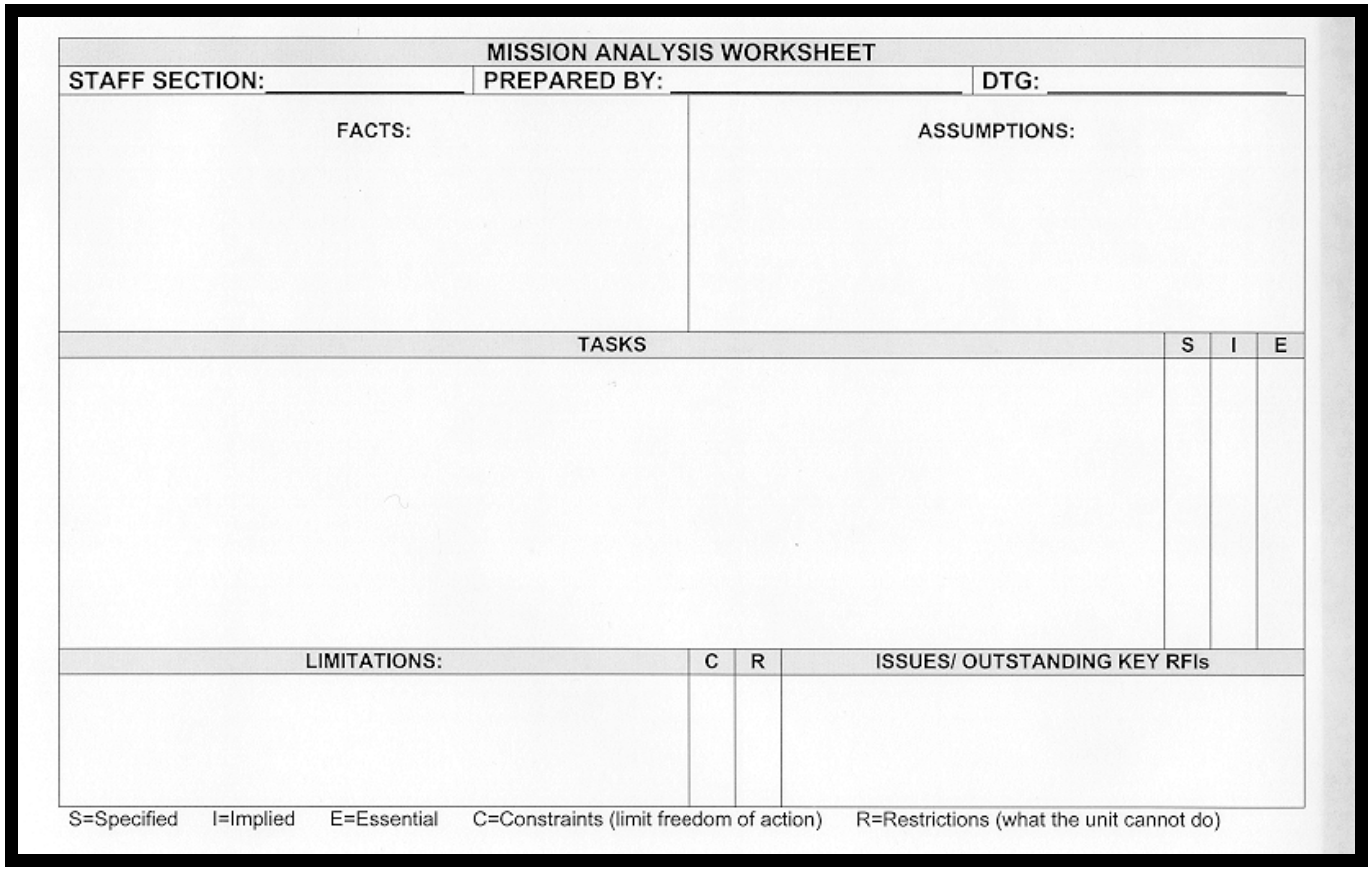
APPENDIX A: XO's TIMELINE WORKSHEET

DTG	EVENT	LEAD
	Parallel planning/Send WO# 1	S-3
	Receive the Mission (08%)	XO/S-3
	Initial Mission Analysis (02%)	XO/S-3
	Mission Brief to Staff (02%)	S-2/S-3
	Mission Analysis/Estimates (12%)	XO/Staff
	Send WO# 2	S-3
	Mission Analysis Brief (02%)	XO/Staff
	Receive CDR's Guidance (02%)	CDR
	COA Development (14%)	XO/S-3
	Send WO# 3	S-3
	Wargame (18%)	XO/S-3
	FASP Preparation (16%)	XO/Staff
	Send WO# 4	S-3
	FASP Review (04%)	XO/S-3
	FASP Reproduction (12%)	XO/Staff
	FASP Brief (08%)	XO/Staff
	CDRs' Backbriefs	CDR
	BDE TF Rehearsal	BDE XO
	BDE Fire Support Rehearsal	BDE FSO
	BDE CSS Rehearsal	BDE XO
	Battery OPORDs	Btry Cdrs
	FA OPS/CSS Rehearsal (1-1.5 hr)	XO/S-3
	FA CASEVAC Rehearsal (45 min.)	XO/S-1
	FA Technical Rehearsal (1 hr)	S-3/BDE FSO
	Attack or defense time	XO/S-3/BDE FSO

Notes:
1. Percentages in parentheses are guidelines for allocating the 1/3 of planning time.
2. Times for rehearsals are suggested times for planning purposes only.

APPENDIX B: MISSION ANALYSIS WORKSHEET

(See page B-2)



MISSION ANALYSIS WORKSHEET

STAFF SECTION:	PREPARED BY:	DTG:

FACTS:	ASSUMPTIONS:

TASKS	S	I	E

LIMITATIONS:	C	R	ISSUES/ OUTSTANDING KEY RFIs

S=Specified I=Implied E=Essential C=Constraints (limit freedom of action) R=Restrictions (what the unit cannot do)

APPENDIX C: MISSION ANALYSIS BRIEFING AGENDA

BRIEFER	TOPICS
XO	**Introduction, Purpose, & Agenda**
S-2	**Abbreviated IBP** * Weather and its impact on artillery operations * Terrain (MCOO, Mobility corridors, Avenues of Approach) * Evaluation of Threat Capabilities to Impact on FA BN's Operations * SITTEMPs (most probable and most dangerous) * Enemy Vulnerabilities * Enemy Assets Available * Recommended CCIR- PIR, EEFI, FFIR
S-3	**Results of Mission Analysis** * Current Combat Power * Current Situation of Units * Current and Projected Task Organization * Missions and Intents Two Levels Up * Specified, Implied, and Essential Tasks (EFATs & EFSTs) * Limitations (Constraints & Restrictions) * Restated Mission (Who, What, Where, When, & Why) * Additional Assets Required * RFIs
S-4	**Logistic Status** * Current Status of Class I (W), III, and V * Current and Projected Maintenance Status * Critical Shortages
S-1	**Personnel Status** * Current and Projected Personnel Status * Medical Status (Assets available) * Critical Shortages
S-6	**Communication Status** * Current and Projected Maintenance Status * Status of Communication Systems (FM, MSRT, BLAST) * Critical Shortages
XO	**Timeline Review & Time Hack**
CDR	**Guidance**

APPENDIX D: PRODUCTS OF MISSION ANALYSIS

* Facts
* Assumptions Necessary for Planning
* Specified Tasks (to include EFSTs)
* Implied Tasks
* Essential Tasks and (EFATs)
* List of Constraints
* List of Restrictions
* Requests for Information
* Initial Reconnaissance Plan
* Restated Mission
* Timeline
* List of Critical Shortages
* MCOO (with potential PAs)
* SITTEMPs
* Initial CCIR
* CDR's Guidance
* CDR's Intent
* Warning Order

APPENDIX E: CHECKLIST FOR COMMANDER'S GUIDANCE

__ Number of Friendly COAs to consider versus Enemy COAs
__ COA development guidance
__ Decisive points
__ Priority of EFATs
__ Guidance on methods to accomplish each EFAT
__ Clarification on effects (end state) for each EFAT (if needed)
__ CCIR-- PIRs, FFIRs, and EEFI
__ Reconnaissance guidance
__ Risk guidance
__ Deception objective
__ Priorities for logistical support
__ Timeline input
__ Type of order to issue
__ Type of rehearsal
__ RFIs
__ Initial Intent (Purpose, Method, Endstate)

APPENDIX F: COA QUALITY CONTROL CHECKLIST

__ Staff and CDR involved in COA development
__ MCOO and SITTEMP used to select PAs and support locations
__ Firing batteries can range all engagement areas from primary and alternate positions
__ Position areas are off main enemy avenues of approach and objectives
__ Position areas support communication
__ Position areas have multiple routes for resupply
__ Movement plan gets all assets into position to support all EFATs
__ All position areas for FA assets have been coordinated through BDE S-3
__ Survey plan integrated into movement plan
__ Radar position supports its operation (cant, mask angle, and azimuths of search)
__ CSS is integrated into scheme of maneuver
__ All battalion assets are used to support the operation
__ COA is unique from other COAs
__ FAS-DC Test
    * **F**easible - if COA meets CDR's intent in terms of Time, Space, and Resources
    * **A**cceptable - if COA assumes prudent risk and leaves units combat capable at the end of the operation
    * **S**uitable - if COA accomplishes the mission and meets CDR's intent
    * **D**isinguishable - if COA significantly different from other COAs in terms of positioning of firing elements, type of movement, mode of movement, positioning of radar, positioning of C2, or method to control fires.
    * **C**omplete - the COA must address the who, what, when, where, how, and why questions concerning all participants' roles in the upcoming operation.
__ SAP Test
    * **S**upport of Main Effort- Firing batteries' AOFs and ranges can support main effort throughout the operation
    * **A**mmunition restrictions or constraints (e.g., internal CSR) needed to support EFATs throughout all phases of the operation
    * **P**ositioning of firing batteries supports accomplishment of all EFATs

APPENDIX G: FIELD ARTILLERY WAR-GAME SYNCHRONIZATION MATRIX

Field Artillery Wargame Synchronization Matrix

	Critical Event or Time	Setting the defense
	Friendly Action	Move firing batteries and prepare defense.
	Enemy Action	Interdict MSRs, direct action against batteries and mortar and sniper attacks.
	Friendly Counteraction	Maneuver clears MSR prior to moves, establishes TCPs, requests radar coverage from Div Arty and digs in
	Essential Fire Support Task(s)	Destroy enemy reconnaissance elements.
	Decision Points	
INTEL	NAI	12 and 15
INTEL	TAI	
INTEL	Collection	Advance Parties
Essential Field Artillery Task(s) FA OPS	Task	Destroy enemy reconnaissance.
Essential Field Artillery Task(s) FA OPS	Purpose	Destroy enemy reconnaissance to allow unobserved movement of all Bde units.
Essential Field Artillery Task(s) FA OPS	Method	
Essential Field Artillery Task(s) FA OPS	Priority	**PRIORITIES OF FIRE:** 2-1 INF, 1-17 INF, TF 1-10 **PRIORITY TARGETS:** A Btry AB7005; B Btry AB3015
Essential Field Artillery Task(s) FA OPS	Allocation	**BATTERY TASKS:** A - establish TCP, position and operate deception radar, escort blade TM to TOC, set up LZ for CLIV & V, collect NAI 15. B - protect radar, occupy with priority to radar, establish TCP escort blade TM to A, set up LZ for CLIV & V, collect NAI 12 **SURVEY:** TM 1 move with A Btry TM 2 move with B Btry Priority: Radar, B, A, 2-1 Mort, 1-17 Mort **RADAR:** Primary Search AZ - 3100 ALT AZ -1800 **METRO:** Sched: 221000, 222100, 230600 Sept
Essential Field Artillery Task(s) FA OPS	Restrictions	**MUNITIONS:** Bde Cdr will clear use of illumination. **FIRE SUPPORT COORDINATION MEASURES:** CFL is PL Blue.
Essential Field Artillery Task(s) FA OPS	Effects	**EFFECT ON ENEMY:** All recon elements destroyed. **LOCATION OF BATTERIES AT END OF EFAT:** A Btry and deception radar in PA 3, AOF 3000; B Btry and radar in PA 4, AOF 3200
SPT OPS	M/CM/S	Blade TM 2 OPCON to B 221500 to 222300Sept OPCON to A 222315 to 230900Sept OPCON to TOC 230930 to 231500Sept Priority to Survivability, CM - Priority of SPT: B, A, TOC
SPT OPS	NBC	
SPT OPS	ADA	Stinger TM 3 OPCON to B Btry 221800
SPT OPS	CSS (CLI, III, IV, V, Maint, Medic)	B: 6 A-22 bags of wire and pickets and 220 rounds of HE/RAP air delivery 221800Sep. A: 4 A-22 bags of wire and pickets and 180 rounds of HE/RAP air delivery 221800Sep. Ground LOGPAC on 231000Sep for CL I
SPT OPS	C2	SPL PZ control for CL IV & V
	Risk	Ambushes on MSRs, mortar attacks before defense is set.
	External Coordination	Bde for maneuver force to clear MSR and Div Arty for radar coverage.
	Notes and Planning Factors	

Legend:

ADA - Air Defense Artillery
AOF - Azimuth of Fire
AZ - Azimuth
Bde - Brigade
Bty - Battery
C2 - Command and Control
Cdr - Commander
CFL - Coordinated Fire Line
CL - Class
CSS - Combat Service Support
Div Arty - Division Artillery
EFAT - Essential FA Task
EFSTs - Essential Fire Support Tasks
FSCM - Fire Support Coordination Measures
HE/RAP - High Explosive/Rocket-Assisted Projectile
INF - Infantry
LOGPAC - Logistics Personnel Administration Center
LZ - Landing Zone
M/C/S - mobility/countermobility survivability
Metro - meteorological
Mort - mortars
MSRs - Main Supply Routes
NAI - Named Area of Interest
NBC - Nuclear, Biological and Chemical
OPCON - Operational Control
PA - Position Area
PL - Phase Line
PZ - Pick up Zone
SPL - Support Platoon Leader
Spt - Support
TAI - Target Area of Interest
TCPs - Tactical Control Points
TF - Task Force
TM - Team
TOC - Tactical Operations Center

APPENDIX H: STEPS IN THE WAR-GAME PROCESS

1. Gather Tools
   - __ Post sketch of the COA to war-game
   - __ Post map board with current graphics
   - __ Prepare and post field artillery war-game synchronization matrix
   - __ Post facts, assumptions, and RFI lists
   - __ Post specified, implied, essential, and EFAT task lists and restated mission
   - __ Post SITTEMP with time phase lines to map board
   - __ Area setup to encourage participation
   - __ Participants assembled

2. List Friendly Forces Available (organic, attached, OPCON)

3. List Critical Assumptions
   - __ Assumptions necessary to continue planning
   - __ Ensure that RFIs have been submitted to answer assumptions, if possible

4. List Critical Events to War-game and Decision Points

5. Determine and List Evaluation Criteria for COA
   - __ CDR's intent and guidance
   - __ Army Tenants
   - __ Principles of War
   - __ Supportability for CSS
   - __ Flexibility

6. Select War-game Method
   - __ Belt (sequential belts war-gamed working backwards from objective)
   - __ Avenue in Depth (good for offense operations)
   - __ Box (used to focus in on a critical event or decisive point)
   - __ Combination (used to cover a critical event or decisive point in greater detail)

7. Select Recording Technique for Results
   - __ Synchronization Matrix
   - __ Narrative Sketch

8. War-game the COA and Assess the Results
   - __ XO covers rules to encourage participation
   - __ XO sets time limit
   - __ Start with most critical event
   - __ Use Friendly Action-Enemy Reaction-Friendly Counteraction Drill
   - __ Use synchronization matrix to provide war-game direction
   - __ Plans Officer records results
   - __ XO ensures everyone participates
   - __ Include risk assessment in war-game

APPENDIX I: PRODUCTS OF WAR-GAMING

* Complete synchronization matrix
* Concept of Operation and coordinating instructions
* Task to subordinate units
* CSS Concept of support
* Information to develop initial CSS synchronization matrix
* Initial CASEVAC plan
* Updated operational and CSS graphics
* Information to produce Decision Support Template or Matrix
* Refined R&S plan
* METRO support plan
* Engineer support plan
* ADA support plan
* Internal fire support plan to protect batteries and convoys
* Refined CCIR
* Survey plan
* Radar deployment order
* Update RFI list
* Contingency operations that must be considered
* Warning order

APPENDIX J: COA COMPARISON MATRIX

CRITERIA	WEIGHT	COA 1	COA 2	COA 3
Accomplishment of EFATs	4	1 (4)	3 (12)	2 (8)
Logistical Resupply	3	2 (6)	3 (9)	1 (3)
FA Maneuver	3	2 (6)	1 (3)	3 (9)
C2	3	1 (3)	3 (9)	2 (6)
Counter-fire Operations	2	3 (6)	2 (4)	1 (2)
Simplicity	3	1 (3)	2 (6)	3 (9)
Survey Ops	1	1 (1)	2 (2)	3 (3)
METRO Ops	1	2 (2)	1 (1)	3 (3)
Force Protection	3	1 (3)	3 (9)	2 (6)
Future Ops	2	3 (6)	2 (4)	1 (2)
Numerical Total Weighted Total		17 (40)	22 (59)	21 (51)

APPENDIX K: FASP QUALITY CONTROL CHECKLIST

A. Written Order

I. Situation Paragraph

a. Terrain and Weather
__ Discusses the impact of terrain and weather on military operations
__ States who the terrain and weather favors
__ Discusses how terrain impacts on PAs and MSRs
__ Discusses enemy ground and air avenue approaches into battalion area

b. Enemy
__ Outlines main enemy threats to firing batteries and support elements
__ Highlights enemy's most probable and most dangerous COAs
__ Discusses enemy indirect fire assets and when they can range firing elements
__ Addresses enemy NBC capabilities, likelihood of use, and potential targets
__ Outlines the enemy air threat and targets
__ Discusses current location of enemy minefields and ambush sites
__ Presents enemy's projected timeline
__ Addresses who controls the MSRs

II. Mission Paragraph
__ Who, What, Where, When, and Why
__ What portion contains all essential tasks

III. Execution Paragraph

a. Commander's Intent
__ Purpose of operation
__ Method of maneuver
__ Endstate in terms of enemy, terrain, and capabilities

b. Concept of Operation
__ Discusses the operation by phases
__ Outlines the begin and end times for each phase
__ States the priority of effort and focus of fires by phase
__ Discusses the EFATs by phase
__ Outlines the engineer support by phase, priority of effort, allocation of resources, and CINC engineer
__ Briefly discusses the survey plan by phase, priority of effort, and security plan

c. Task to Subordinate Units

1). Firing Batteries
__ Clearly outlines tasks/purposes for firing battery taken from war-game synchronization matrix
__ Discusses priority of fires by phase

2). Radar
__ Deployment plan
__ Primary and secondary azimuths of search by phase
__ Zones to input into computer by phase
__ Security plan

3). Fire Direction
__ Attack guidance matrix
__ Ammunition requirements for pre-planned targets
__ Breakdown of ammunition by battery
__ Schedule of fires

4). Survey
__ Priority of survey by phase
__ Team 1&2 deployment plan
__ Security plan

5) Communication
__ Outlines RETRANS locations and nets
__ Discusses security for RETRANS teams

6) ALOC
__ Time and location of R3P
__ Ammunition requirements by battery

d. Coordinating Instructions

__ MOPP Status
__ ADA Status
__ R&S Patrol guidance
__ Alert Time
__ Get Set Time
__ Vehicle Marking plan
__ Enemy air assault denial plan
__ Clean & contaminated EVAC routes
__ Decon sites and instructions
__ CCIR
__ Engineer support plan
__ Back-haul of air items

IV. Service and Support Paragraph

a. Concept of Support
__ Provides overview of logistical support for the operation
__ Location of BSA
__ Method of resupply operation (air or ground LOGPACs to batteries vs. LRPs)
__ Outlines the location of LRPs and system to active them

__ Discusses plan for R3P if used
__ Discusses plan to move trains during operation and new location
__ Limitation on classes of supplies
__ Priorities of support and maintenance
__ MSRs in battalion area
__ Priorities of movement forward and back on MSRs
__ Authority to conduct control substitution or cannibalization

b. Class I
__ Ration cycled outlined
__ Water distribution plan discussed (water can or M149 exchange)

c. Class III
__ Discusses fuel distribution plan (fuel can exchange, R3P, or service station)
__ Outlines contingency plan for emergency fuel resupply

d. Class IV
__ Discusses distribution of Class IV to battery locations
__ Outlines availability of Class IV at the BSA

e. Class V
__ Discusses the plan to deliver ammunition to the firing batteries
__ Provides the batteries a breakdown of ammunition the support platoon will deliver before the operation
__ Outlines what ammunition will remain at the ALOC's location
__ Discusses the emergency resupply contingency plan to include the amount of ammunition

f. Medical
__ Provides overview of battalion's ground and air CASEVAC plan
__ Outlines each battery's estimated casualties
__ Distributes the Medic teams and ambulances among the battalion
__ Provides location of the Battalion Aid Station
__ Outlines CASEVAC routes and locations of AXP
__ Provides location to Level II medical facility (Medical CO from FSB)
__ Provides call signs and frequencies for requesting MEDEVAC
__ Provides location of maneuver battalion aid stations
__ Includes a CASEVAC concept sketch for the operation
__ Discusses plan to conduct nonstandard CASEVAC

g. Maintenance
__ Discusses priority of maintenance
__ Outlines recovery plan
__ Provides status of recovery assets
__ Provides location of Maintenance Collection Points (MCP)
__ Outlines evacuation timelines

h. Personnel and Services
__ Discusses the projected replacement rates by key MOSs
__ Outlines services available during operation
__ Specifies location of Chaplain
__ Outlines GREGG procedures and collection point location

i. Transportation
__ Discusses transportation assets available
__ Status of MSRs
__ Time and location for pre-DACG if conducting air movement
__ Time and location for marshaling for trucking operation

V. Command and Signal Paragraph

a. Command
__ Outlines location of key leaders
__ Discusses location of TAC

b. Signal
__ Status of key communication systems (SINGARS, MSRT, DVNT, VIASAT)
__ Addresses the use of nets different from SOP
__ Instructions for the use of nets with RETRANS
__ Outlines compromise plan to include Grey Ghost Net Ids
__ Discusses OPSKEDS to be used

B. Procedural Checks

1. Overlay Synchronization Checks. Post-operation graphics, SITTEMP, and CSS Overlays on map and check the following:

__ Battery locations are accurately posted
__ Battalion assets are not located in the same location of BDE assets
__ PAs are not planned on projected enemy objectives
__ AXPs are not posted on enemy main avenues of approach or on roads that BDE scheduled to close as part of its obstacle plan.
__ Firing batteries' weapons can range the entire BDE sector
__ Firing batteries' azimuths of fire do not overlap

2. Specified, Implied, and Essential Task Lists Close-out Checks:

__ All specified and implied tasks are incorporated into the FASP
__ The plan will accomplish all essential tasks and EFATs
__ Essential tasks have redundant means to accomplish them

3. RFI Close-out Check:

__ All RFIs have been answered
__ Did answers to critical RFIs create a need to modify the COA?

4. Scrub the war-game synchronization matrix with FASP:

__ All the tasks to subordinate units recorded on the war-game synchronization matrix got incorporated into the FASP
__ All contingencies identified in the war-game are addressed in the FASP
__ Key coordination with outside agencies has occurred

5. Compare the operation and CSS synchronization matrixes with FASP:

__ Task to subordinate elements in the matrixes should include all tasks identified during the war-game

6. Scrub Annexes with base order:

__ Radar Deployment Order is consistent with the base order
__ The FASP incorporates tasks to subordinate units from the R&S plan

APPENDIX L: FASP BRIEFING AGENDA

BRIEFER	TOPICS
S-3	**Operation Overview** * Area of Interest and Area of Operation * Intent of higher headquarters two levels up * Critical Assumptions
S-2	**Updated Intelligence Estimate** * Weather Analysis (Focus on impact on FA operations) * Terrain Analysis (Focus on impact on FA operations) * Enemy Situation - Current disposition of enemy forces - Most likely enemy COA - Most dangerous COA - Enemy air threat and routes - Probability of enemy use of NBC - Greatest threats to firing batteries, TOC, and ALOC - Projected enemy timeline
S-3	**Operation Brief** * Mission * Review EFATs * Task Organization * Commander's Intent **(CDR Discusses)** * Concept of the Operation * Tasks/Purposes to Subordinate Elements * Survey Plan * Radar Deployment Plan * Coordinating Instructions
S-4	**Logistical Support** * Concept of Support * Water distribution plan * Fuel distribution plan * Ammunition distribution plan * Maintenance priorities and recovery plan
S-1	**Personnel and Services** * Estimate of casualties by battery and replacement rates * CASEVAC plan
S-6	**Command and Signal**
XO	**Timeline** (BN FDO conducts time hack)
CSM	**Comments**
CDR	**Comments**

APPENDIX M: STEPS FOR CONDUCTING A REHEARSAL

STEP	ACTION/ACTIVITY	PERSON
1.	Supervise the setup of rehearsal tool(s)	XO/S-3
2.	Conduct role call	OPSNCO
3.	Orient participants to the rehearsal tool(s)	XO
4.	Discuss the rules for conducting rehearsal	XO
5.	Define the standards for success	XO
6.	Appoint recorder	XO
7.	Verbal "walk-through" of the concept of Ops	S-3
8.	Review commander's intent	CDR
9.	Outline critical events to be rehearsed	S-3
10.	Portray enemy situation at first (most) critical event (focus discussion on what firing batteries will see)	S-2
11.	Portray the friendly situation at first critical event	S-3
12.	Each major participant discusses his element's role in the event (brief by order listed on the synchronization matrix)	Element Leaders
13.	Ensure that all participants brief and their actions are synchronized IAW synchronization matrix	XO/S-3
14.	Repeat steps 10-12 for each critical event	S-3
15.	If standard is not met, rehearse again	XO
16.	Ensure all issues are resolved, changes are posted to DST and changes published in a FRAGO	XO/S-3